

WE CLAIM:

1. A method for forming a capacitor, comprising:

5 providing a semiconductor;

 forming a first dielectric layer over said
 semiconductor;

10 forming a copper structure in said dielectric layer;

 forming a second dielectric layer over said copper
 structure;

15 forming a metal containing layer over said second
 dielectric layer; and

 forming a planar surface by removing portions of said
 second dielectric layer and said metal containing
20 layer.

2. The method of claim 1 wherein said second dielectric
layer consists of a material selected from the group

consisting of silicon nitride, silicon oxide, hafnium oxide, silicon oxynitride, and aluminum oxide.

3. The method of claim 2 wherein said metal containing
5 layer consists of a material selected from the group consisting of tantalum, tantalum nitride, copper, aluminum, titanium, and titanium nitride.

4. The method of claim 3 wherein said forming a planar
10 surface by removing portions of said second dielectric layer and said metal containing layer comprises chemical mechanical polishing.

5. A method for forming an integrated circuit capacitor,
comprising:

providing a semiconductor;

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forming a first dielectric layer over said
semiconductor;

forming a copper structure in said dielectric layer;

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forming a second dielectric layer over said copper
structure;

forming a metal containing layer over said second
dielectric layer; and

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forming a planar surface using chemical mechanical
polishing by removing portions of said second
dielectric layer and said metal containing layer.

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6. The method of claim 5 wherein said second dielectric
layer consists of a material selected from the group
consisting of silicon nitride, silicon oxide, hafnium
oxide, silicon oxynitride, and aluminum oxide.

7. The method of claim 6 wherein said metal containing
layer consists of a material selected from the group
consisting of tantalum, tantalum nitride, copper, aluminum,
5 titanium, and titanium nitride.

8. A method for forming an integrated circuit capacitor with copper metal, comprising:

providing a semiconductor;

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forming a first dielectric layer over said semiconductor;

forming a copper structure in said dielectric layer;

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forming a second dielectric layer over said copper structure;

forming a first metal containing layer over said second dielectric layer

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forming a second metal containing layer over said first metal containing layer; and

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forming a planar surface by removing portions of said second dielectric layer, said first metal containing layer, and said second metal containing layer.

9. The method of claim 8 wherein said second dielectric layer consists of a material selected from the group consisting of silicon nitride, silicon oxide, hafnium oxide, silicon oxynitride, and aluminum oxide.

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10. The method of claim 9 wherein said first metal containing layer consists of a material selected from the group consisting of tantalum, tantalum nitride, copper, aluminum, titanium, and titanium nitride.

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11. The method of claim 10 wherein said second metal containing layer consists of a material selected from the group consisting of tantalum, tantalum nitride, copper, aluminum, titanium, and titanium nitride.

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12. The method of claim 8 wherein said forming a planar surface by removing portions of said second dielectric layer, said first metal containing layer, and said second metal containing layer comprises chemical mechanical polishing.

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